

Density Lab

Purpose: To determine the density of various objects and to use the physical property of density to make a golf ball float.

Show your work and provide proper units

Materials:

Balance

Water

Golf Ball

Salt

Plastic Spoon

Metric Ruler

Graduated Cylinders

Beakers

Ice

Wood Block

Pennies

Cooking Oil

Part 1 Procedure

1. Find the mass and volume of the wood block, penny, cooking oil, and a golf ball.

2. Calculate the densities.

Object	Mass (g)	Volume (cm ³ or mL)	Density
Wood Block			
Penny			
Cooking Oil			
Golf Ball			

Part 2 Procedure

1. You know the density of a golf ball, and you know the density of water. In order to make the golf ball float, you need to change the density of the water so that it is more dense than the golf ball. (Think! This is why it is easier to float in salt water.)

2. Start with 100 mL of water in a 200 mL beaker. Check to see if the golf ball floats.

3. Complete the data table to keep track of the amount of salt you are adding to the water so that you can calculate the density at the end of the experiment.

Amount of water (mL)	Amount of salt (g)	Density of Solution

4. Measure out some salt (you decide how much) and add that to your beaker. Stir until the salt is dissolved. Calculate the density and predict if the golf ball will float. Then try it. Continue to add salt until you can get the golf ball to float.

Analysis

1. What is density a measure of?
2. What instrument do you use to find the mass of an object?
3. How do you find the volume of an odd shaped object?